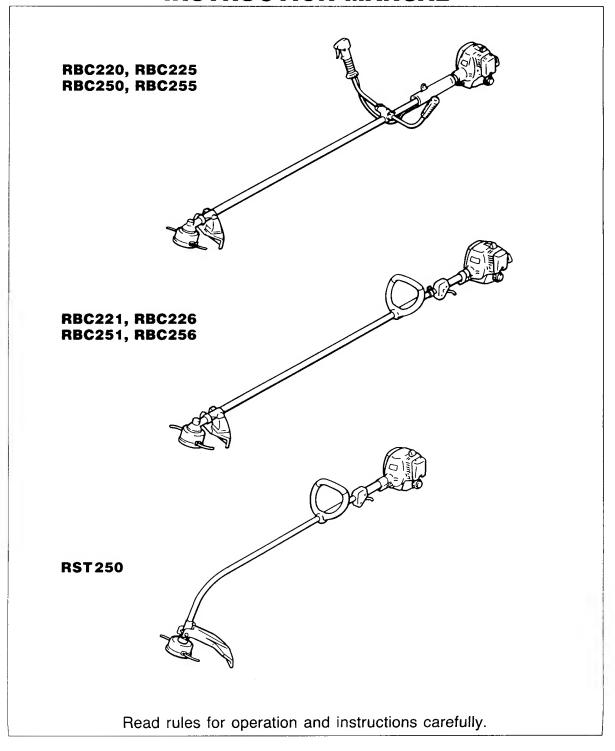


# **String Trimmer**

RBC220 RBC225 RBC250 RBC255 RBC221 RBC226 RBC251 RBC256 RST250

## **INSTRUCTION MANUAL**



## **SPECIFICATIONS**

Model	RBC220	RBC250				
Dimensions (mm) (L x W x H)	1,725 x 580 x 360 (67-29/32'' x 22-27/32'' x 14-3/16'')					
Weight (kg)	4.2 (9.2 lbs)					
Revolution of cutter head (rpm)	4,000 - 6,000					
Gear ratio	13/19					
Clutch	Automatic centrifugal type					
Engine						
Displacement (cc)	21.7	24.5				
Power rating (ps)	1.0 1.3					
Carburetor	All position diaphragm type					
Starting system	Recoil starter					
Ignition system	Solid state ignition					
Plug	NGK BM7A or equivalent					
Fuel tank ( ℓ )	0.5 (0.48 quarts)					
Fuel	Mixed gas (Gasoline: Makita Genuine Two-stroke Engine Oil = 50 : 1)					
Model	RBC221	RBC251				
Dimensions (mm) (L x W x H)	1,725 x 2 (67-29/32'' x 8-	14 x 238 7/16'' x 9-3/8'')				
Weight (kg)	4.1 (9.0 lbs)					
Revolution of cutter head (rpm)	4,000 ~ 6,000					
Gear ratio	13/19					
Clutch	Automatic centrifugal type					
Engine						
Displacement (cc)	21.7	24.5				
Power rating (ps)	1.0 1.3					
Carburetor	All position diaphragm type					
Starting system	Recoil starter					
Ignition system	Solid state	e ignition				
Plug	NGK BM7A o	r equivalent				
Fuel tank ( l' )	0.5 (0.48	quarts)				
Fuel	Mixed gas (Gasoline: Makita Genuii	ne Two-stroke Engine Oil = 50 : 1)				
Model	RST250					
Dimensions (mm) (L x W x H)	1,479 x 214 x 233 (58-7/32'' x 8-7/16'' x 9-3/16'')					
Weight (kg)	4.2 (9.2 lbs)					
Revolution of cutter head (rpm)	6,000 ~ 7,000					
Clutch	Automatic centrifugal type					
Engine						
Displacement (cc)	24.5					
Power rating (ps)	1.3					
Carburetor	All position diaphragm type					
Starting system	Recoil starter					
Ignition system	Solid state ignition					
Plug	NGK BM7A or equivalent					
Fuel tank ( ? )	0.5 (0.48 quarts)					
Fuel	Mixed gas (Gasoline: Makita Genuine Two-stroke Engine Oil = 50 : 1)					

NOTE: • String Trimmers are for use with nylon cutting heads only.

NEVER install or use any metal cutter blade or metallic cutting line. Serious lacerations could result.

<sup>•</sup> Specifications are subject to change without notice.

## **SPECIFICATIONS**

Model	RBC225	RBC255			
Dimensions (mm) (L x W x H)	1,725 x 580 x 360 (67-29/32" x 22-27/32" x 14-3/16")				
Weight. (kg)	4.4 (9.7 lbs)				
Revolution of cutter head (rpm)	4,000 ~ 6,000				
Gear ratio	14/18				
Clutch	Automatic centrifugal type				
Engine	<del></del>				
Displacement (cc)	21.7	24.5			
Power rating (ps)	1.0	1.3			
Carburetor	All position diaphragm type				
Starting system	Recoil starter				
Ignition system	Solid state ignition				
Plug	NGK BM7A or equivalent				
Fuel tank ( l )	0.5 (0.48 quarts)				
Fuel	Mixed gas (Gasoline: Makita Genuine Two-stroke Engine Oil = 50 : 1)				
Model	RBC226	RBC256			
Dimensions (mm) (L x W x H)	1,725 x 214 x 238 (67-29/32'' x 8-7/16'' x 9-3/8'')				
Weight (kg)	4.3 (9.5 lbs)				
	4,000 ~ 6,000				
Revolution of cutter head (rpm)	4,000 -				
Gear ratio		- 6,000 /18			
Gear ratio Clutch	14.	- 6,000 /18			
Gear ratio Clutch	14.	- 6,000 /18			
Gear ratio Clutch Engine	14. Automatic ce	- 6,000 /18 ntrifugal type			
Gear ratio Clutch Engine Displacement (cc)	Automatic ce	- 6,000 /18 ntrifugal type 24.5 1.3			
Gear ratio Clutch Engine Displacement (cc) Power rating (ps)	Automatic ce  21.7  1.0  All position di	- 6,000 /18 ntrifugal type 24.5 1.3			
Gear ratio Clutch Engine Displacement (cc) Power rating (ps) Carburetor	Automatic ce  21.7  1.0  All position di Recoil	- 6,000 /18 ntrifugal type  24.5 1.3 aphragm type			
Gear ratio Clutch Engine Displacement (cc) Power rating (ps) Carburetor Starting system	21.7 1.0 All position di Recoil Solid stat	- 6,000 /18 ntrifugal type  24.5 1.3 aphragm type starter			
Power rating (ps)  Carburetor  Starting system  Ignition system	21.7 1.0 All position di Recoil Solid stat NGK BM7A	- 6,000 /18 ntrifugal type  24.5 1.3 aphragm type starter e ignition			

NOTE: • String Trimmers are for use with nylon cutting heads only.

NEVER install or use any metal cutter blade or metallic cutting line. Serious lacerations could result.

<sup>•</sup> Specifications are subject to change without notice.

Thank you very much for your patronage in purchasing your MAKITA STRING TRIMMER. We are proud of and very confident in recommending our MAKITA STRING TRIMMER as a result of our long development and ample knowledge and experience.

This booklet refers to the information which you should learn in order to take advantage of its outstanding performance.

We wish for you to gain sufficient knowledge from this booklet before operating your MAKITA STRING TRIMMER and make the best use of it in the future. Basically, STRING TRIMMERS are designed for trimming grass, weeds and low growth, non-wood ground cover. Always use the proper machine for the job.

#### SAFETY RULES AND PRECAUTIONS

Proper safety precautions must be observed. Like all power equipment this unit must be handled carefully. DO NOT EXPOSE YOURSELF OR OTHERS TO DANGER. Follow these general rules. Do not permit others to use this machine unless they are thoroughly responsible and have read, and understand the machine manual and are trained in its operation.

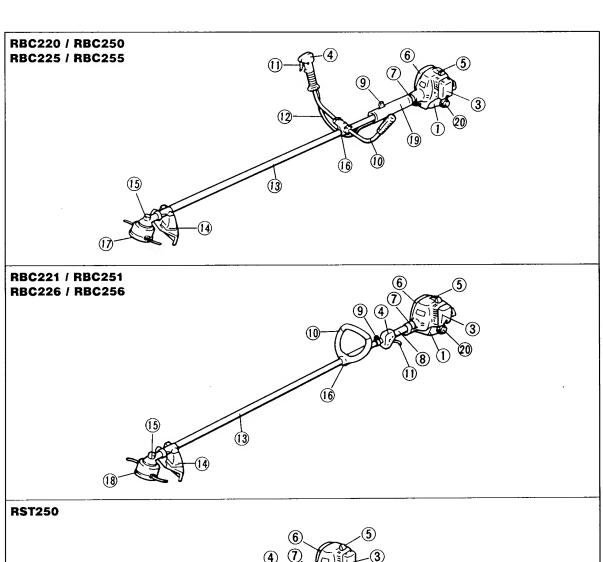
- 1. Always wear safety goggles for eye protection. Dress properly, do not wear loose clothing or jewelry that could become caught in moving parts of the unit. Safe, sturdy, nonskid footwear should always be worn. Long hair should be tied back. It is recommended that legs and feet be covered to protect from flying debris during operation.
- 2. Inspect the entire machine for loose parts (nuts, bolts, screws, etc.) and any damage. Repair or replace as necessary before using the machine.
- 3. DO NOT USE any attachment with this power head other than those recommended by the manufacturer of the engine. Serious injury to the user or bystanders or damage to the engine could result.
- 4. Keep the handles free of oil and fuel.
- 5. Always use the proper handle and shoulder strap when cutting.
- 6. Do not smoke while mixing fuel or filling tank.
- 7. Do not mix fuel in an enclosed room or near open flames. Assure adequate ventilation.
- 8. Always mix and store the fuel in a properly marked container that is approved by local codes and ordinances for such usage.
- 9. Never remove the fuel tank cap while the engine is running.
- 10. Never start or run the engine inside a closed room or building. Fumes from the exhaust contain dangerous carbon monoxide.
- 11. Never attempt to make engine adjustments while the unit is running and strapped to the operator. Always make engine adjustments with the unit resting on a flat, clear surface.
- 12. Do not use the unit if it is damaged or poorly adjusted. Never remove the machine's guard.
- 13. Inspect the area to be cut and remove all debris that could become entangled in the nylon cutting head. Also remove any objects that the unit may throw during cutting.
- 14. Keep children away. Onlookers should be kept at a safe distance from the work area, at least 30 feet.
- 15. Never leave the machine unattended.
- 16. Do not use this unit for any job other than those for which it is intended as described in this manual.
- 17. Do not overreach. Keep proper footing and balance at all times. Do not run unit while standing on a ladder or any other unstable footing location.
- 18. Keep hands and feet clear of the nylon cutting head while unit is in use.
- 19. Do not use this type of machine for sweeping away debris.
- 20. Do not use the unit when you are tired or under the influence of medications, drugs or alcohol.
- 21. Use only nylon cutting head which is free of damage. If a stone or any other obstacle is hit, stop the engine and check the nylon cutting head. A broken or unbalanced nylon cutting head must never be used. Follow instruction for changing accessories.
- 22. Do not store in a closed area where fuel vapors can reach an open flame from hot water heaters, furnaces, etc. Store in a locked, well ventilated area only.

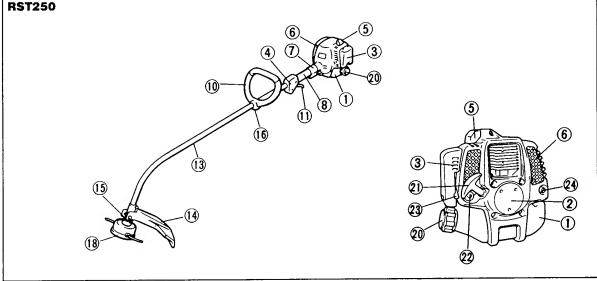
- 23. Use only replacement parts that are identical to original equipment parts when servicing the unit. These parts are available from your dealer. The use of any other accessory or attachment may create a potential hazard, injury to the user and damage to the machine.
- 24. Clean the machine completely, especially, the fuel tank cap, its surroundings, and the air cleaner.
- 25. When refueling, be sure to stop the engine and confirm that it is cooled down. Never refuel when the engine is running or hot. When gasoline spills, be sure to wipe it up completely and properly dispose of those materials before starting the engine.
- 26. Stay clear of other workers or bystanders.
- 27. Whenever approaching an operator of the machine, carefully call his attention and confirm that the operator stops the engine. Be carful not to startle or distract the operator causing an unsafe situation.
- 28. Never touch the nylon cutting head whenever the engine is running. If it is necessary to adjust the protector or nylon cutting head, be sure to stop the engine and confirm that the nylon cutting head has stopped running.
- 29. The engine should be turned off when the machine is moved between work areas.
- 30. Be careful not to hit the nylon cutting head against stones, or the ground. Unreasonably rough operation will shorten the life of the machine as well as create an unsafe environment for yourself and those around you.
- 31. Pay attention to loosening and overheating of parts. If there is any abnormality of the machine, stop operation immediately and check the machine carefully. If necessary, have the machine serviced by a qualified service facility. Never continue to operate a machine which may be malfunctioning.
- 32. In startup or during operation of the engine, never touch hot parts such as the muffler, the high-voltage wire or the spark plug.
- 33. For a while after the engine has stopped, the muffler is still hot. Never place the machine in any places where there are flammable materials (dry grass, etc.), combustible gasses or combustible liquids.
- 34. Pay special attention to operation in the rain or just after the rain as the ground may be slippery.
- 35. If you slip or fall to the ground or into a hole, release the throttle lever immediately.
- 36. Be careful not to drop the machine or hit it against obstacles.
- 37. Before proceeding to adjust or repair the machine, be sure to stop the engine and detach the spark plug cap from the spark plug.
- 38. When the machine is to be kept in storage for a long time, drain fuel from the fuel tank and carburetor, clean the parts, move the machine to a safe place and confirm that the engine is cooled down.
- 39. Make periodic inspections to always assure safe and efficient operation. If you need a careful inspection of your machine, please contact our agent or dealer.
- 40. Keep the machine well away from fire or sparks.
- 41. Warning: The cutter area is still dangerous while the machine is coasting to a stop.
- 42. Don't try to tackle a big job with an undersized machine.
- 43. Wear a dust mask in dusty work conditions.
- 44. Wear hearing protection during loud or extended periods of use.
- 45. Keep guards and protectors in place and in working order.
- 46. Never operate this machine while it is turned upside-down or when it is at an extreme angle.

CAUTION! CAUTION! CAUTION!

WHEN MIXING GASOLINE WITH TWO STROKE OIL, USE ONLY GASOLINE WHICH CONTAINS NO ETHANOL OR METHANOL (TYPES OF ALCOHOL), THIS WILL HELP TO AVOID POSSIBLE DAMAGE TO ENGINE FUEL LINES AND OTHER ENGINE PARTS.

SAVE THESE INSTRUCTIONS.





ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
1	Fuel Tank	9	Hanger	17	Nylon Cutting Head
2	Recoil Starter	10	Handle	18	Nylon Cutting Head
3	Air Cleaner	11	Throttle Lever	19	Waist Pad
4	ON-OFF Switch	12	Throttle Wire	20	Fuel Filler Cap
5	Spark Plug	13	Drive Shaft	21	Starter Knob
6	Muffler	14	Protector	22	Primer Pump
7	Holder Case	15	Gear Case / Head Case	23	Choke Lever
8	Rear Grip	16	Handle Joint	24	Exhaust Pipe

## **ASSEMBLY INSTRUCTIONS**

#### Assembly of engine and drive shaft

For RBC220, RBC250, RBC225, RBC255

 Loosen the screws M5x18 and insert the drive shaft into the holder case. (Fig. 1) (Note)

Always insert the drive shaft into the holder case fully (approx. 63 mm; 2-1/2"). If the inner shaft resists full insertion of the drive shaft, try to insert it again after slightly rotating the drive shaft or the support washer on the gear case to match the inner shaft to the hole inside the holder case.

- After making sure that the drive shaft is installed fully and properly, tighten the screws M5x18 to secure the drive shaft.
- 3. Connection of throttle wire
  - 1) Connect the throttle wire as shown in Fig. 2 and firmly close the cable joint. (Fig. 2)
  - 2) Squeeze the throttle lever to make sure that the throttle wire moves smoothly.
- 4. Connect the switch cords to the two cords from the engine by inserting one into the other.
- 5. Wrap the waist pad around the drive shaft so that the hanger will protrude through the slit in the waist pad and the throttle wire and the cords will also be wrapped under the waist pad. (Fig. 3)
- 6. Insert the bullet connectors through the holes in the cover. (Fig. 4)

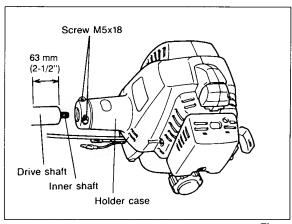


Fig. 1

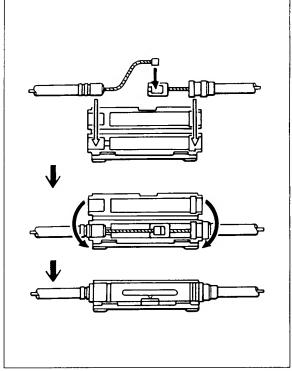


Fig. 2

#### For RBC221, RBC251, RBC226, RBC256

- Insert the nipple of the throttle wire through the square hole in the grip until it fits into the square hole in the moving part which is inside the grip. It should move when the throttle lever is squeezed. (Fig. 6)
- Loosen the screws M5x18 and insert the drive shaft into the holder case. (Fig. 1) (Note)
  - Always ihsert the drive shaft into the holder case fully (approx. 63 mm; 2-1/2"). If the inner shaft resists full insertion of the drive shaft, try to insert it again after slightly rotating the drive shaft or the support washer on the gear case to match the inner shaft to the hole inside the holder case.
  - 2) Be cautious not to allow the switch cords to be pinched between the holder case and the grip end.
- 3. After making sure that the drive shaft is installed fully and properly, tighten the screws M5x18 to secure the drive shaft.

(Note)

Squeeze the throttle lever to make sure that the throttle wire moves smoothly.

- 4. Connect the switch cords to the two cords from the engine by inserting one into the other.
- 5. Insert the bullet connectors through the holes in the cover. (Fig. 4)

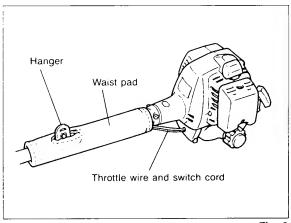


Fig. 3

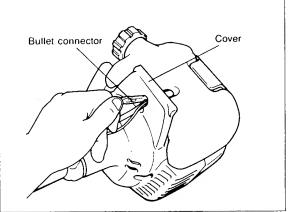


Fig. 4

#### For RST250

- 1. Insert the nuts M5 into the hex holes in the holder case. Insert the screws M5x30 through the opposite holes and semi-tighten the screws M5x30. (Fig. 5)
- Insert the nipple of the throttle wire through the square hole in the grip until it fits into the square hole in the moving part which is inside the grip. It should move when the throttle lever is squeezed. (Fig. 6)
- 3. Insert the drive shaft into the holder case fully until the grip end reaches the holder case while passing the throttle wire and the switch cords through the slot in the holder case. (Fig. 7)
  - (Note)
  - Match the square drive of the inner shaft to the square hole inside the holder case by slightly rotating the drive shaft or the support washer on the head case, and you can insert the drive shaft into the holder case smoothly.
  - 2) Be cautious not to allow the switch cords to be pinched between the holder case and the grip end.
- 4. Match the hole in the holder case to the hole in the inner shaft and insert the screw M5x8 through the holes. Then tighten the screw M5x8 and the screws M5x30. (Fig. 8)
  - (Note)
  - Squeeze the throttle lever to make sure that the throttle wire moves smoothly.
- 5. Connect the switch cords to the two cords from the engine by inserting one into the other. Insert them through the holes in the cover. (Fig. 9)

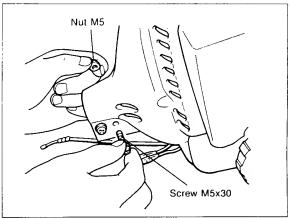


Fig. 5

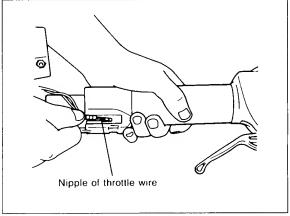


Fig. 6

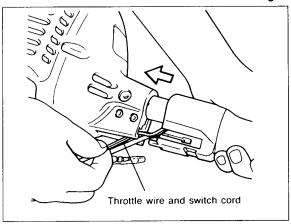


Fig. 7

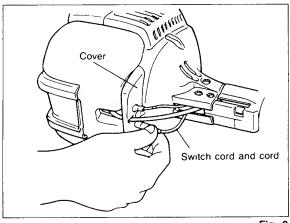


Fig. 9

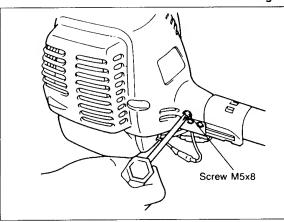
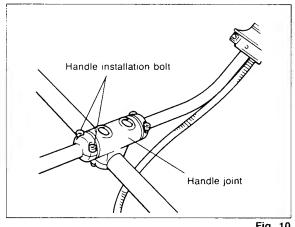


Fig. 8



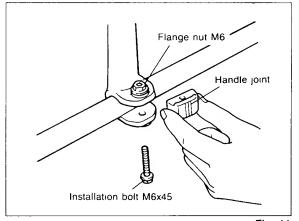


Fig. 10

Fig. 11

#### Mounting of handle

#### For machines with anti-vibration U-handle (Fig. 13)

- 1. Loosen the handle installation bolts.
- 2. Insert the handle into the handle joint fully.
- 3. After making sure that the handle is installed properly, tighten the installation bolts to secure the handle.

#### For machines with loop handle (Fig. 14)

- 1. Attach the handle to the drive shaft.
- 2. Install the handle joint on the handle as shown in Fig. 10. Insert the installation bolt M6x45 through the holes in the handle. Semitighten the installation bolt M6x45.
- 3. Adjust the handle to the desired position and tighten the installation bolt M6x45.

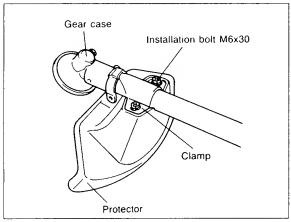


Fig. 12

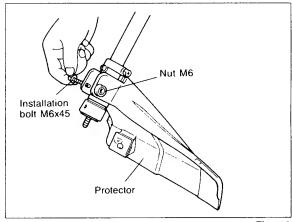


Fig. 13

#### **Mounting of protector**

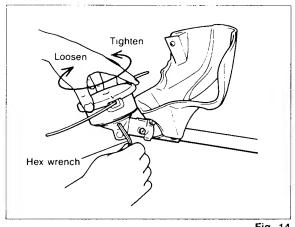
#### For RBC220, RBC221, RBC250, RBC251, RBC225, RBC226, RBC255 and RBC256 (Fig. 12)

Install the clamp on the drive shaft so that the projection of the clamp is inserted into the opening between the gear case and the drive shaft. Secure the protector with the installation bolts M6x30.

#### For RST250 (Fig. 13)

- 1. Attach the protector to the drive shaft.
- 2. Insert the nut M6 into the hex hole in the protector.
- 3. Secure the protector with the installation bolt M6x45.

Do not tighten the installation bolt M6x45 excessively.



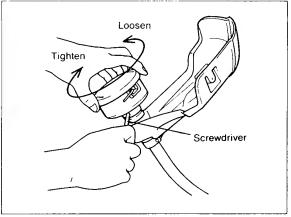


Fig. 14

Fig. 15

#### Mounting of nylon cutting head

Turn the machine upside down, and you can replace the nylon cutting head easily.

#### For RBC220, RBC221, RBC250, RBC251, RBC225, RBC226, RBC255 and RBC256 (Fig. 14)

- 1. Insert the hex wrench through the hole in the gear case and rotate the support washer until it is locked with the hex wrench (or the shaft is locked).
- 2. Loosen the nut (left-handed) with the socket wrench and remove the nut, and tightening washer.
- 3. Screw the nylon cutting head onto the shaft.

#### For RST250 (Fig. 15)

- 1. Insert the screwdriver provided through the hole in the head case and rotate the support washer until it is locked with the screwdriver (or the shaft is locked).
- 2. Screw the nylon cutting head onto the shaft.

#### PREPARING FOR OPERATION

## Fuel and oil mixture

Inspect the fuel tank and fill with clean, fresh fuel of the proper mixture to assure the longer life of the tool. Use the following mixed gas.

Gasoline: Makita genuine Two-stroke engine oil = 50:1 or Gasoline: Other maker's Two-stroke engine oil = 25:1

#### FOR CALIFORNIA REGULATION:

#### THIS EQUIPMENT IS CERTIFIED TO OPERATE ON GASOLINE + TWO STROKE OIL

WHEN MIXING GASOLINE WITH TWO STROKE OIL, USE ONLY GASOLINE WHICH CONTAINS NO ETHANOL OR METHANOL (TYPES OF ALCHOL), THIS WILL HELP TO AVOID POSSIBLE DAMAGE TO ENGINE FUEL LINES AND OTHER ENGINE PARTS.

DO NOT MIX GASOLINE AND OIL DIRECTLY IN THE FUEL TANK.

IMPORTANT: Failure to follow proper fuel mix instructions may cause damage to the engine.

#### CAUTION:

- 1. When preparing fuel mixture, mix only the amount needed for the job you are to do. Do not use fuel mixture that has been stored longer than two months. Fuel mixture stored longer than this will cause hard starting and poor performance. If fuel mix has been stored longer than this time, it should be removed and filled with a fresh mixture.
- 2. Never fill the fuel tank to the very top.
- 3. Never add fuel to the tank in a closed unventilated area.
- 4. Do not add fuel to this unit close to an open fire or sparks.
- 5. Be sure to wipe off spilled fuel before attempting to start the engine.
- 6. Do not attempt to refuel a hot engine.

#### Check points before operation

- 1. Check for loose bolts, nuts and fittings.
- 2. Check the air cleaner for dirt. Clean the air filter of all dirt, etc. before operation.
- 3. Check to be sure that protector is securely in place.

## **ENGINE STARTING AND STOPPING PROCEDURES**

#### **Starting**

- 1. When the engine is cold, left stopped for more than 5 minutes or when fuel is added to the engine:
  - 1) Push the stop switch to "START" position. (Fig. 16 and 17)
  - Give a gentle push on the primer pump repeatedly (7 — 10 times) until fuel comes into the primer pump. (Fig. 18)
  - 3) Close the choke lever fully by moving it to the position. (Fig. 18)
  - 4) Lock the throttle lever in the "start-up" position as follows.

#### For machines with U-handle

Press the safety 'lock-off' lever and squeeze the throttle lever fully. Then depress the lock button. Release the throttle lever while depressing the lock button. The throttle lever will now be locked in the 'start-up' position. (Fig. 16)

## For machines with loop handle

Squeeze the throttle lever fully. Hook the lock fin to the notch in the throttle lever case while releasing the throttle lever. (Fig. 19)

- 5) Place the machine on the ground. Hold the drive shaft or grip with your left hand and give several strong pulls to the starter by your right hand.
- 6) After the engine is started, open the choke lever fully by moving it gradually to the | ♦ | position.
- 7) Release the throttle lever fully.

(Note)

The throttle lever is unlocked when squeezing it slightly.

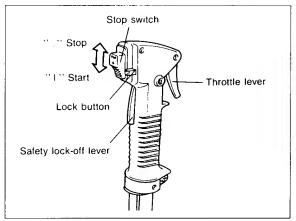


Fig. 16

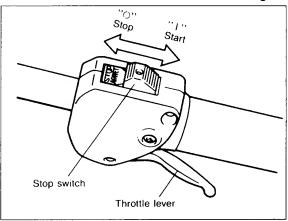


Fig. 17

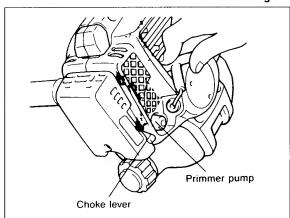


Fig. 18

- 2. Restarting immediately after the engine has stopped:
  - 1) Push the stop switch to "START" position. (Fig. 16 and 17)
  - Give a gentle push on the primer pump repeatedly (7 — 10 times) until fuel comes into the primer pump. (Fig. 18)
  - Open the choke lever fully by moving it to the | ♦ | position. (Fig. 18)
  - 4) Leave the throttle lever fully released.
  - 5) Place the machine on the ground. Hold the drive shaft or grip with your left hand and give several strong pulls to the starter by your right hand. CAUTION:

Never operate the engine at high rpm without load. With throttle lever fully squeezed and no load, the engine rpm will be very high which can have an adverse effect on the life of the engine.

#### **Stopping**

Release the throttle lever fully, and when the engine rpm has lowered, push the stop switch to "STOP" position. Engine will stop.

#### Idle adjustment

The nylon cutting head should not run when the throttle lever is fully released. If necessary, adjust the idle rpm using the idle adjusting screw. (Fig. 20)

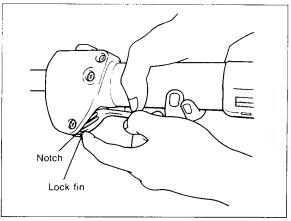


Fig. 19

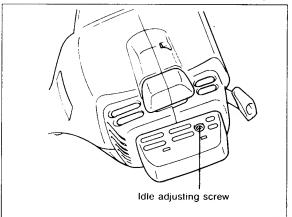
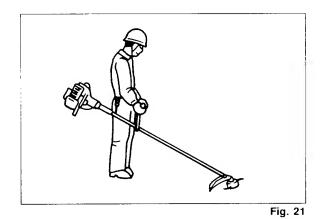


Fig. 20



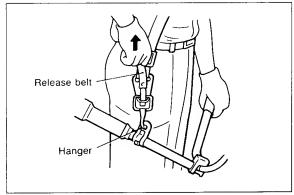


Fig. 22

## **CORRECT HANDLING OF MACHINE**

## Attachment and detachment of shoulder strap

(For RBC220, RBC221, RBC250, RBC251, RBC225, RBC226, RBC255 and RBC256 only)

- 1. Adjust the strap length so that the nylon cutting head will be kept parallel with the ground. (Fig. 21)
- 2. Detachment

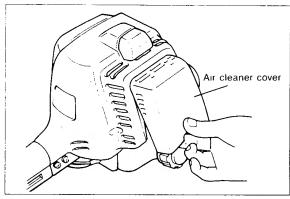
In an emergency, pull the release belt strongly upward, and you can detach the machine from you. Be extremely cautious to maintain control of the machine at this time. Do not allow the machine to be deflected toward you or anyone in the work vicinity. (Fig. 22)

#### WARNING:

Failure to maintain complete control of the machine at all times could result in serious bodily injury or DEATH.

#### Handling

- 1. Hang the machine on the right side of your body.
- 2. Squeeze the throttle lever, and the rotational speed will be increased. Release it, and the engine will run at idle (low speed). Use a rotational speed suitable for the grass being cut. If the rotational speed is excessively low, grass may become jammed in the nylon cutting head.
- 3. During grass cutting, firmly hold the machine to permit easy, controlled handling.
- 4. Never strike or tap objects with the nylon cutting head.



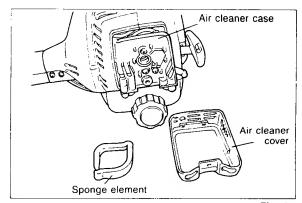
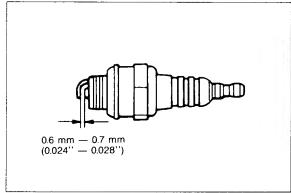




Fig. 24



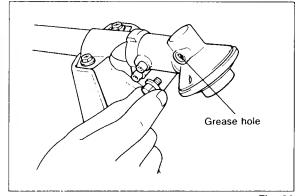


Fig. 25

Fig. 26

#### DAILY CHECKUP AND MAINTENANCE

- 1. Before operation, pay particular attention to the tightness of nylon cutting head. Retighten nylon cutting head if necessary.: Every 8 hours (Daily).
- 2. Check clogging of the cooling air passage and the cylinder fins. Clean them if necesary.: Every 8 hours (Daily)
- 3. Cleaning of air cleaner.: Every 8 hours (Daily)
  - 1) Remove the air cleaner cover and clean the sponge element.

    If there is excessive dust or dirt adhering to the cleaner, clean it. A clogged air cleaner may make it difficult or impossible to start the engine or increase the engine rotational speed. (Fig. 23 and 24)
  - 2) Install the sponge element around the ribs of the air cleaner case.
- 4. Checkup of spark plug.: Every 8 hours (Daily)
  - The gap between the two electrodes of the spark plug should be 0.6 to 0.7 mm (0.024" to 0.028").
  - If the gap is too wide or too narrow, adjust it.
  - If the spark plug is clogged with carbon or fouled, clean it thoroughly or replace it. (Fig. 25)
- 5. Supply of grease to gear case.
  - (For RBC220, RBC221, RBC250, RBC251, RBC225, RBC226, RBC255 and RBC256)
  - Apply grease (SHELL ALVANIA No. 3 or equivalent) to the gear case through the grease hole every 30 hours. (Fig. 26)
- 6. Supply of grease to flexible shaft. (For RST250)
  - Pull the flexible shaft out of the drive shaft and apply grease (SHELL ALVANIA No. 2 or equivalent) to the flexible shaft every 10 hours.
- 7. Cleaning of muffler exhaust port.: Every 50 hours (Monthly)
  - If the exhaust port is clogged with carbon, remove it by scraping and tapping gently with a screwdriver or the like.
- 8. Check of fuel filter. If clogged, replace with new one.: Every 50 hours
- 9. Replace fuel lines.: Every 200 hours (Yearly)
- 10. Overhaul engine.: Every 200 hours (Yearly)
- 11. Replace packing and gaskets with new ones.: Every time engine is reassembled.

#### **STORAGE**

- 1. When storing the machine for a long time, drain fuel from the fuel tank and carburetor as follows:

  Drain all fuel from the fuel tank. Give a gentle push on the primer pump repeatedly until all fuel is expelled out of the primer pump. Dispose of properly and in accordance with all local laws.
- 2. Remove the spark plug and add a few drops of oil into the spark plug hole. Then, pull the starter gently to assure that an oil film coats the engine inside, then tighten the spark plug.
- 3. Clear or blow dirt or dust from the nylon cutting head and outside of engine, wipe them with a oil-immersed cloth and store the machine in a dry location.
- 4. For RST250 only
  Storage hanger (optional accessory) is convenient for hanging the machine to wall.

## California Emission Control Warranty Statement

[This warranty does not apply in any other state.]

## YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and Makita USA, Inc. are pleased to explain the emission control warranty on your 1995 utility and/or lawn and garden equipment engine. In California, new utility and lawn and garden equipment engines must be designed, built and equippted to meet the State's stringent anti-smog standards. Makita USA, Inc. must warrant the emission control system on your utility and/or lawn and garden equipment engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your utility and/or lawn and garden equipment engine.

Your emission control system includes parts such as the carburetor or fuel injection systems, the ignition system and the catalytic converter. Also included are the hoses, and connectors and other emission-related assemblies.

Where a warrantable condition exists, Makita USA, Inc. will repair your utility and/or lawn and garden equipment at no cost to you including diagnosis, parts and labor.

#### MANUFACTURER'S WARRANTY COVERAGE:

The 1995 and later utility and/or lawn and garden equipment engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by Makita USA, Inc.

## OWNER'S WARRANTY RESPONSIBILITIES:

As the utility and lawn and garden equipment engine owner, you are responsible for the performance of the required maintainence listed in your owner's manual. Makita USA, Inc. recommends that you retain all receipts covering maintenance on your utility and/or lawn and garden equipment engine, but Makita USA, Inc. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the utility and/or lawn and garden equipment engine owner, you should be aware, however, that Makita USA, Inc. may deny you warranty coverage if your utility and/or lawn and garden equipment engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your utility and/or lawn and garden equipment engine to a Makita USA, Inc. service center as a problem exists. The warranty repairs should be completed in a reasonable time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact a Makita Factory Service Center Manager nearest you. A list of the Factory Service Center locations and phone numbers is provided below for your convenience.

## LIMITED WARRANTY

- California Only -

Makita U.S.A., Inc., a distributor of utility and lawn and garden equipment in the U.S., warrants to the owner of 1995 and later utility and/or lawn and garden equipment engines that the engine (1) has been designed, built, and equipped at the time of manufacture so as to conform with the applicable regulations of the California Air Resources Board, and (2) is free from defects in materials and workmanship which may cause it to fail to conform with those regulations as applicable according to the terms and conditions stated below.

## **WARRANTY PERIOD**

The warranty period begins on the date which the utility and/or lawn and garden equipment engine is delivered to the original retail purchaser and ends two years after that date. During this two year period Makita U.S.A., Inc. warrants to the original retail purchaser and each subsequent purchaser that the engine is free from defect in material and workmanship that can cause the failure of a warranted emission-related part.

## WHAT IS COVERED UNDER THIS WARRANTY

Repair and/or replacement of any warranted emission-related part will be performed at no charge provided the work is performed at an authorized warranty station. There will also be no charge for any diagnostic labor performed at an authorized warranty station which leads to the determination that a warranted emission-related part is defective.

Any warranted part which is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance shall be warranted for the period of time up to the first scheduled replacement of that part. This warranty shall apply only towards the repair, replacement, and/or adjustment of the component parts listed below.

## **EMISSION-RELATED PARTS COVERED UNDER THIS WARRANTY**

- 1. Fuel Metering Systems
  - (a) Carburetor and its internal parts
  - (b) Air cleaner plate
  - (c) Air cleaner case
  - (d) Air cleaner element
  - (e) Fuel filter
- 2. Ignition Systems
  - (a) Spark Plug
  - (b) Flywheel Magneto
  - (c) Ignition Coil
- 3. Other Miscellaneous Items Used in Above Systems
  - (a) Fuel Hoses
  - (b) Sealing Gaskets

If it is determined by an authorized warranty station that other engine components have been damaged due to the failure of a warranted emission-related part during the warranty period, Makita U.S.A., Inc. will repair and/or replace the necessary components.

## WHAT IS NOT COVERED UNDER THIS WARRANTY

This warranty does not cover any emission-related part which malfunctions, fails, or is damaged due to alterations and/or modifications such as changing, adding, or removing parts.

When an engine is being serviced under warranty, Makita U.S.A., Inc. and any of its authorized dealers, distributors, or warranty stations shall not be liable for any loss of use of the engine, for any damage to goods, or loss of time or inconvenience.

This limited warranty also does not apply to any emission-related part which malfunctions, fails, or is damaged due to failure to follow the maintenance and operating instructions specified in the 1995 and later Owner's Manual including:

- (a) Improper or inadequate maintenance of any warranted emission-related part.
- (b) Improper installation, adjustment, or repair of the engine or any warrated emission-related part unless performed by a factory authorized warranty station.
- (c) Failure to use recommended fuel as specified in the 1995 and later Owner's Manual.
- (d) Repairs and diagnosis performed outside of an authorized warranty station.
- (e) Use of parts which are not authorized by Makita U.S.A., Inc.

#### MAINTENANCE SCHEDULE

The engine owner is responsible for having all scheduled inspection and maintenance services performed at the intervals specified in the 1995 and later Owner's Manual and to retain records of these services as having been performed. These records should be transferred to each subsequent owner of the engine. Makita U.S.A., Inc., cannot deny a claim solely because there are no records of scheduled maintenance; however, a warranty claim may be denied if the failure to perform the scheduled maintenance and inspection resulted in the failure of a warranted emission-related part. As a minimum, the engine owner is responsible for the scheduled inspection and maintenance described below which are based on the procedures described in the Owner's Manual.

## **PROCEDURE**

- (a) Check all nuts and bolts and tighten as necesary.
- (b) Check air passages and engine cylinder fins for clogging.

  Remove all obstructions as necessary.
- (c) Clean air cleaner.
- (d) Check spark plug. Clean and adjust if necesary.
- (e) Check muffler exhaust port. Clean if necessary.
- (f) Check fuel filter. If clogged, replace with new filter.
- (g) Replace fuel lines.
- (h) Overhaul engine.
- (i) Replace packings and gaskets.

#### INTERVAL

Every 8 hours of use or daily.

Every 50 hours of use or monthly.

Every 50 hours of use or monthly.

Every 200 hours of use or annually.

Every 200 hours of use or annually.

Every time engine is reassembled.

## REPAIR AND REPLACEMENT OF EMISSION-RELATED PARTS

It is recommended that only engine replacement parts which have been authorized and approved by Makit U.S.A., Inc. should be used in the performance of any warranty maintenance or repairs of emission-related parts. These replacement parts will be provided at no charge if the part is still under warranty.

# HOW TO FILE A WARRANTY CLAIM AND WHERE TO GET WARRANTY SERVICES

Contact the nearest Makita Factory Service Center Manager to determine the appropriate location where the required warranty services are to be performed. A list of the Factory Service Center locations and phone numbers are provided below for your convenience.

14930 Northam Street La Mirada, CA 90638-5753 (714) 522-8088

1421N. Clovis Ave., Ste. 112Fresno, CA 93727(209) 252-5166

392 S. Arrowhead Ave., #A-1 San Bernardino, CA 92408 (909) 885-1289

333 Littlefield Ave.

S. San Francisco, CA 94080

T. (415) 875-1002

16735 Saticoy St., Ste. 105 Van Nuys, CA 91406 (818) 782-2440 41850 Christy Street Fremont, CA 94538-5107 (510) 657-9881

4554 Roseville Rd., Ste E North Highlands, CA 95660 (916) 331-6211

7674 Clairemont Mesa Blvd. San Diego, CA 92111 (619) 278-4471

1714 E McFadden Ave., Unit M Santa Ana, CA 92705 (714) 667-5066

#### FEDERAL EMISSION COMPONENT DEFECT WARRANTY

EMISSION COMPONENT DEFECT WARRANTY COVERAGE - This emission warranty is applicable in all States, except the State of California

FUJI ROBIN INDUSTRIES LTD. and Carswell Import & Marketing Associates, Inc., Winston-Salem, North Carolina, (herein "CARSWELL") warrant to the initial retail purchaser and each subsequent owner, that this utility equipment engine (herein "engine") was designed, built, and equipped to comform at the time of initial sale to all applicable regulations of the U.S. Environmental Protection Agency (EPA), and that the engine is free of defects in materials and workmanship which would cause this engine to fail to conform with EPA regulations during its warranty period.

For the components listed under PARTS COVERED, the dealer or service center authorized by CARSWELL will, at no cost to you, make the necessary diagnosis, repair, or replacement necessary to ensure that the engine complies with applicable U.S. EPA regulations.

## EMISSION COMPONENT DEFECT WARRANTY PERIOD

The warranty period for this engine begins on the date of sale to the initial purchaser and continues for a period of 2 years.

#### PARTS COVERED

Listed below are the parts covered by the Emission Component Defect Warranty. Some of the parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part.

- 1) Fuel Metering System
  - (i) Carburetor and internal parts
  - (ii) Fuel filter, if applicable
  - (iii) Throttle stopper, if applicable
  - (iv) Choke System, if applicable
- 2) Air Induction System
  - (i) Air cleaner plate
  - (ii) Air cleaner case
  - (iii) Air cleaner element
- 3) Ignition System
  - (i) Spark plug
  - (ii) Flywheel Magneto
  - (iii) Ignition Coil
- 4) Miscellaneous Items Used in Above Systems
  - (i) Fuel hoses. clamps and sealing gaskets

#### **OBTAINING WARRANTY SERVICE**

To obtain warranty service, take your engine to the nearest Authorized CARSWELL, distributor or dealer. Bring your sales receipts indicating date of purchase for this engine. The dealer or service center authorized by CARSWELL will perform the necessary repairs or adjustments within a reasonable amount of time and furnish you with a copy of the repair order. All parts and accessories replaced under this warranty become the property of CARSWELL

#### WHAT IS NOT COVERED

- \* Conditions resulting from tampering, misuse, improper adjustment (unless they were made by the dealer or service center authorized by CARSWELL during a warranty repair), alteration, accident, failure to use the recommended fuel and oil, or not performing required maintenance services.
- \* The replacement parts used for required maintenance services.
- \* Consequential damages such as loss of time, inconvenience, loss of use of the engine of equipment, etd.
- \* Diagnosis and inspection charges that do not result in warranty-eligible service being performed.
- \* Any non-authorized replacement part, or malfunction of authorized parts due to use of non-authorized parts.

#### OWNER'S WARRANTY RESPONSIBILITIES

As the engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual, CARSWELL recommends that you retain all receipts covering maintenance on your engine, but CARSWELL can not deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the engine owner, you should however be aware that the CARSWELL may deny your warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your engine to the nearest dealer or service center authorized by CARSWELL when a problem exists.

If you have any questions regarding your warranty rights and responsibilities, you should contact the CARSWELL Warranty service department at 910-767-7700 (toll free from GA, NC, SC, TN & VA 1-800-929-1948) for the information.

## THINGS YOU SHOULD KNOW ABOUT THE EMISSION CONTROLL SYSTEM WARRANTY

#### MAINTENANCE AND REPAIRS

You are responsible for the proper use and maintenance of the engine. You should keep all receipts and maintenance records covering the performance of regular maintenance in the event questions arise. These receipts and maintenance records should be transferred to each subsequent owner of the engine. CARSWELL reserves the rights to deny warranty coverage if the engine has not been properly maintained. Warranty claims will not be denied, however, solely because of the lack of required maintenance or failure to keep maintenance records.

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY A DEALER OR SERVICE CENTER AUTHORIZED BY CARSWELL. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF WARRANTY CLAIM.

If other than the parts authorized by CARSWELL are used for maintenance replacements or for the repair of components affecting emission control, you should assure yourself that such parts are warranted by their manufacturer to be equivalent to the parts authorized by CARSWELL in their performance and durability.

#### HOW TO MAKE A CLAIM

All repairs qualifying under this limited warranty must be performed by a dealer or service center authorized by CARSWELL. In the event that any emission-related part is found to be defective during the warranty period, you shall notify CARSWELL at 910-767-7700 (toll free from GA, NC, SC, TN & VA 1-800-929-1948) and you will be given the appropriate warranty service facilities where the warranty repair can be performed.